

ISSUANCE TRANSMITTAL
SHEET

N A S A
National Aeronautics and
Space Administration

George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

Issuance Number: MMI 5330.8 Date: JULY 7, 1993

Material Transmitted:

1. Management Instruction MMI 5330.8, "MSFC Nonconformance (Discrepancy) Review System"
2. This Instruction is designed to:
 - a. Elevate the responsibilities for the nonconformance review to Center level.
 - b. Provide organizational references.
 - c. Cancel S&E 5330.7, "MSFC Material Review System."

Filing Instructions:

File in a standard 3-ring binder in numerical sequence w/o regard to the alphabetical prefix which identifies the type of issuance.

George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

Originating Organization: CR01 Effective Date: MMI: 5330.8

Subject: MSFC NONCONFORMANCE (DISCREPANCY)

REVIEW SYSTEM

1. PURPOSE

To establish the Marshall Space Flight Center (MSFC) policy, responsibilities, and procedures for the dispositioning of non- conforming (discrepant) articles and materials (hereafter called items) that are received, manufactured, modified, designed, or tested at MSFC.

2. APPLICABILITY

This Instruction is applicable to all MSFC organizations.

3. REFERENCES (Only applicable parts of the most recent edition apply.)

MMI 5330.4 "Deviation Approval Request Requirements"

MMI 5330.9 "MSFC Recurrence Control System"

MM 5330.10 "MSFC Nonconformance (Discrepancy) Reporting System"

MMI 8040.19 "Engineering Change Requests"

4. AUTHORITY (Only applicable parts of the most recent edition apply.)

NHB 5300.4(1B) "Quality Program Provisions for Aeronautical and Space System Contractors"

NHB 5300.4(1C) "Inspection System Provisions for Aeronautical and Space System Materials,
Parts, Components and Services"

NHB 5300.4(1D-2) "Safety, Reliability, Maintainability and Quality Provisions for the Space
Shuttle Program"

5. POLICY

When an item does not conform to applicable drawings, specifications, tests, or other requirements, the item shall be recorded and identified as being nonconforming, segregated from work operations to the extent practicable, and reviewed and dispositioned for timely remedial and recurrence control action.

6. DEFINITIONS

- a. Discrepancy Record (DR) - The record of a hardware/software nonconformance. Dispositions to accomplish required remedial actions are recorded on the Record Copy of MSFC Form 460 (Copy 1).
- b. Material Review Crib (MRC) - Controlled access area for storage of nonconforming items designated for review.
- c. Performing Organization - Science and Engineering Directorate (S&E) laboratory elements responsible for operations (receiving, manufacturing, test, etc.) and subject to Safety and Mission Assurance/Quality Assurance Office (S&MA/QA) inspection or test monitoring activities.
- d. Repair - A procedure which makes a nonconforming item acceptable for use. The purpose of the repair is to reduce the effect of the nonconformance. Repair is distinguished from rework in that the characteristics after repair still do not completely conform to the applicable drawings, specifications, or contract requirements. Non-standard repair procedures are authorized by Material Review Board (MRB) action for use on a one-time basis only.
- e. Return to Vendor (RTV) - Return of items to suppliers for various reasons (rejection, improper paperwork, scrap, repair, rework, credit, etc.).
- f. Rework - A procedure applied to a nonconforming item that will completely eliminate the nonconformance and result in a characteristic that conforms completely to the drawings, specifications, or contract requirements. Includes both "incomplete operations" and "return to print" dispositions.
- g. Test Discrepancy Record (TDR) - The record of problems/anomalies occurring during test operations and the engineering dispositions required to perform problem investigation, isolation, and troubleshooting and to accomplish remedial actions. Dispositions to accomplish required remedial actions are recorded on the Record Copy of MSFC Form 460 (Copy 1).

7. GENERAL PROVISIONS

a. Nonconformance reporting shall be as follows:

(1) A Squawk Tag (MSFC Tag 6) shall be initiated by S&MA/QA personnel to define "obvious and simple rework" configuration nonconformances and dispositions to the performing organization or the vendor.

(2) A DR shall be initiated by S&MA/QA personnel to define and disposition all other configuration nonconformance to applicable drawings, specifications, or other requirements. An initial review of each DR shall be conducted by the performing organization and the responsible design organization to determine one of the following dispositions:

- (a) Scrap, return to vendor (RTV), or rework.
- (b) Request Material Review Board (MRB) disposition.
- (c) If it is determined that Class I change criteria is affected, prepare and process a Deviation Approval Request (DAR) per MMI 5330.4.
- (d) If an engineering problem is indicated, prepare an Engineering Change Request (ECR) per MMI 8040.19 and submit the ECR to the applicable Configuration Change Board (CCB) for disposition.

(3) A TDR shall be initiated by test personnel to define and disposition test anomalies.

b. The forms in paragraph 7.a. shall be completed, processed, and approved in accordance with MM 5330.10. MSFC Form 460 is a multipurpose discrepancy record form that is also used to define recurrence prevention problems and dispositions in accordance with MMI 5330.9.

c. Two MRB's, one for propulsion systems and components and one for payloads, shall be established to disposition DR's determined in the initial review to require MRB action. These MRB's shall support the chief engineer for Space Transportation Systems and for Space Systems, respectively. Each MRB shall be a committee consisting of voting and nonvoting members identified as follows:

(1) Voting Members

- (a) Safety and Mission Assurance Office Member - Member will act as chairperson and be responsible for representing and signing for all elements within the S&MA Office.

- (b) Materials and Processes (M&P) Laboratory (two members) - One member shall be responsible for representing and signing for all M&P specialties within the laboratory; the other member shall be responsible for representing and signing for all manufacturing elements within the laboratory.
 - (c) Design Laboratory Members - Members shall be responsible for representing and signing for all design and test elements within the assigned S&E design laboratory. Selection of design laboratory personnel is contingent upon the S&E laboratory which has design and/or test responsibility for the hardware/software under review.
- (2) Nonvoting Contract Members - When applicable, on-site contractor quality engineering and technical engineering personnel shall provide consultation to the MRB.
 - (3) Nonvoting Consulting Members - Specialists from technical disciplines or S&E organizations shall provide assistance to the MRB as required.

8. RESPONSIBILITIES

See the Attachment.

9. FORMS

MSFC Tag 6, "Squawk Tag"
MSFC Form 460, "Discrepancy Record"

10. CANCELLATION

S&E 5330.7A dated March 25, 1980

(ORIG S/BY)

T. J. Lee

Director

Attachment:
Responsibilities

Distribution:
SDL 2

RESPONSIBILITIES

1. The Safety and Mission Assurance Office will:

- a. Assure overall and timely implementation of this system.
- b. Prepare and process Squawk Tags, DR's, and TDR's for nonconformances in accordance with MM 5330.10.
- c. Forward dispositions to the performing organizations for implementation. Assure final acceptance of dispositioned nonconformances.
- d. Establish MRB's and provide chairperson and alternate chairpersons for the MRB's.
- e. Provide a Quality Records Center (QRC) and record MRB nonconformance dispositions, deviations, and waivers to support the as-built configuration status system (ABCSS) on the parts tag.
- f. Establish and maintain enclosed Material Review Cribs (MRC's) to store impounded items. Access shall be controlled by the S&MA/QA personnel, and shall be limited to current MRB members whose names are posted on the crib and technical specialists escorted by MRB members. The MRC shall be locked when unattended, and items shall be logged in and out by S&MA/QA.
- g. Establish MRB meeting schedules and notify all members.

2. All Science and Engineering Laboratories will:

- a. Provide the S&MA/QA Office upon request a list of personnel (and their alternates) designated to serve on the MRB and delegated with the authority to represent and sign for their organizations, all material review dispositions which fall within their organization's responsibilities.
- b. Prepare an ECR in accordance with MMI 8040.19 if an engineering problem is indicated.

3. The Systems Analysis and Integration Laboratory will:

Provide support as required to assure proper issuance, control, and tracking of ECR's and DAR's resulting from nonconformance review actions.